

SURFACE WATER - ARARs -
Ambient Water Quality Criteria for Protection of Human Health^{1,4}
 units in ug/L (unless otherwise noted)

Chemical Name	CAS #	Priority Pollutant?	Carcinogen?	Human Health Criteria		Source and Comments(5)
				Fresh	Marine	
ACROLEIN	107028	Y	N	320	780	NTR
ACRYLONITRILE	107131	Y	Y	0.059	0.66	NTR
ALDRIN	309002	Y	Y	0.00013	0.00014	WAC 173-201A, NTR
ANTHRAZENE	120127	Y	N	9600	110000	NTR
ANTIMONY (INORGANIC)	7440360	Y	N	14	4300	NTR
ARSENIC (inorganic)	7440382	Y	Y	0.018	0.14	NTR
ASBESTOS	1332214	Y	Y	7,000,000 fibers/L		NTR
BENZENE	71432	Y	Y	1.2	71	NTR
BENZIDINE	92875	Y	Y	0.00012	0.00054	NTR
BENZO(a)ANTHRAZENE	56553	Y	Y	0.0028	0.031	NTR
BENZO(a)PYRENE	50328	Y	Y	0.0028	0.031	NTR
BENZO(b)FLUORANTHENE	205992	Y	Y	0.0028	0.031	NTR
BENZO(k) FLUORANTHENE	207089	Y	Y	0.0028	0.031	NTR
BHC - ALPHA	319846	Y	Y	0.0039	0.013	NTR
BHC - BETA	319857	Y	Y	0.014	0.046	NTR
BHC - GAMMA (Lindane)	58899	N	Y	0.0190	0.063	WAC 173-201A, NTR
BIS(2-CHLOROETHYL)ETHER	111444	Y	Y	0.031	1.4	NTR
BIS(2 CHLOROISOPROPYL)ETHER	39638329	Y	N	1400	170000	NTR
BIS(2-ETHYLHEXYL) PHTHALATE	117817	Y	Y	1.8	5.9	NTR
BROMOFORM	75252	Y	Y	4.3	360	NTR
BUTYLBENZYL PHTHALATE	85687			3000.0	5200	63 FRN 68354
CARBON TETRACHLORIDE	56235	Y	Y	0.25	4.4	NTR
CHLOROBENZENE	108907	Y	N	680	21000	NTR
CHLORDANE	57749	Y	Y	0.00057	0.00059	WAC 173-201A, NTR
CHLORODIBROMOMETHANE	124481	Y	Y	0.41	34	NTR
BIS-2-CHLOROETHYL ETHER	111444	Y	Y	0.031	1.4	NTR
CHLOROFORM	67663	Y	Y	5.7	470	NTR
CHLOROISOPROPYL ETHER (BIS-2)	108601	Y	N	1400	170000	NTR
CHRYSENE	218019	Y	Y	0.0028	0.031	NTR
CYANIDE	57125	Y	N	700	220000	WAC 173-201A, NTR
DDT	50293	Y	Y	0.00059	0.00059	WAC 173-201A, NTR
DDT METABOLITE (DDE)	72559	Y	Y	0.00059	0.00059	WAC 173-201A, NTR
DDT METABOLITE (DDD)	72548	Y	Y	0.00083	0.00084	WAC 173-201A, NTR

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DIBENZO(a,h)ANTHRACENE	53703	Y	Y	0.0028	0.031	NTR
DIBUTYLPHthalATE	84742	Y	N	2700	12000	NTR
1,2 DICHLOROBENZENE	95501	Y	N	2700	17000	NTR
1,3 DICHLOROBENZENE	541731	Y	N	400	2600	NTR
1,4 DICHLOROBENZENE	106467	Y	N	400	2600	NTR
3,3 DICHLOROBENZIDINE	91941	Y	Y	0.04	0.077	NTR
DICHLOROBROMOMETHANE	75274	Y	Y	0.27	22	NTR
1,2 DICHLOROETHANE	107062	Y	Y	0.38	99	NTR
1,1 DICHLOROETHYLENE	75354	Y	Y	0.057	3.2	NTR
2,4 DICHLOROPHENOL	75354	N	N	93	790	NTR
1,3 -DICHLOROPROPYLENE	542756	Y	N	10	1700	NTR
DIELDRIN	60571	Y	Y	0.00014	0.00014	WAC 173-201A, NTR
DIETHYLPHthalATE	84662	Y	N	23000	120000	NTR
DIMETHYLPHthalATE	131113	Y	N	313000	2900000	NTR
DI-n-BUTYL PHTHALATE	131113	Y	N	2700	12000	NTR
2-METHYL-4,6 -DINITROPHENOL	534521	Y	N	13.4	765	NTR
2,4-DINITROPHENOL	51285	Y	N	70.0	14000	NTR
DINITROTOLUENE 2,4	121142	Y	Y	0.11	9.1	NTR
DIOXIN (2,3,7,8-TCDD)	1746016	Y	Y	0.000000013	0.000000014	NTR
1,2 DIPHENYLHYDRAZINE	122667	Y	Y	0.04	0.54	NTR
DI-2-ETHYLHEXYLPHTHALATE	117817	Y	Y	1.8	5.9	NTR
ENDOSULFAN	115297	Y	N	0.93	2.0	WAC 173-201A, NTR
ENDOSULFAN SULFATE	1031078	Y	N	0.93	2.0	NTR
ENDRIN	72208	Y	N	0.76	0.81	WAC 173-201A, NTR
ENDRIN ALDEHYDE	7421934	Y	N	0.76	0.81	NTR
ETHYLBENZENE	100414	Y	N	3100	29000	NTR
FLUORANTHENE	206440	Y	N	300	370	NTR
FLUORENE	86737	Y	N	1300	14000	NTR
HEPTACHLOR	76448	Y	Y	0.00021	0.00021	WAC 173-201A, NTR
HEPTACHLOR EPOXIDE	1024573	Y	Y	0.00010	0.00011	WAC 173-201A, NTR
HEXACHLOROBENZENE	118741	Y	Y	0.00075	0.00077	NTR
HEXACHLOROBUTADIENE	87683	Y	Y	0.44	50	NTR
HEXACHLOROCYCLOHEXANE-ALPHA	319846	Y	Y	0.0039	0.013	NTR

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HEXACHLOROCYCLOHEXANE-BETA	319857	Y	Y	0.014	0.046	NTR
HEXACHLOROCYCLOHEXANE-GAMMA (lin)	58899	Y	Y	0.019	0.063	WAC 173-201A, NTR
HEXACHLOROCYCLOPENTADIENE	77474	Y	N	240	17000	NTR
HEXACHLOROETHANE	67721	N	Y	1.9	8.9	NTR
INDENO(1,2,3-cd)PYRENE	193395	Y	Y	0.0028	0.031	NTR
ISOPHORONE	78591	Y	Y	8.4	600	NTR
METHYL BROMIDE	74839	Y	N	48	4000	NTR
METHYLENE CHLORIDE	75092	Y	Y	4.7	1600	NTR
MERCURY	7439976	Y	N	0.14	0.15	WAC 173-201A, NTR
NICKEL	7440020	Y	N	610	4600	WAC 173-201A, NTR
NITROBENZENE	98953	Y	N	17	1900	NTR
NITROSODIMETHYLAMINE N	62759	Y	Y	0.00069	8.1	NTR
NITROSODIPHENYLAMINE N	86306	Y	Y	5	16	NTR
PENTACHLOROPHENOL see footnote (3)	87865	Y	Y	0.28	8.2	WAC 173-201A, NTR
PHENOL	108952	Y	N	21000	4600000	NTR
POLYCHLORINATED BIPHENYLS (PCB's)	see footnote (2)	Y	Y	0.000170	0.000170	WAC 173-201A, NTR
PYRENE	129000	Y	N	960	11000	NTR
SELENIUM	7782492	Y	N	170	11000	WAC 173-201A, 63 FRN 68354
TETRACHLOROETHANE 1,1,2,2	79345	Y	Y	0.17	11	NTR
TETRACHLOROETHYLENE	127184	Y	Y	0.8	8.85	NTR
THALLIUM	7440280	Y	N	1.7	6.3	NTR
TOLUENE	108883	Y	N	6800	200000	NTR
TOXAPHENE	8001352	Y	Y	0.00073	0.00075	WAC 173-201A, NTR
TRICHLOROETHANE 1,1,2	79005	Y	Y	0.6	42	NTR
TRICHLOROETHYLENE	79005	Y	Y	2.7	81	NTR
TRICHLOROPHENOL 2,4,6	88062	Y	Y	2.1	6.5	NTR
VINYL CHLORIDE	75014	Y	Y	2	525	NTR

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				Fresh	Marine	

Footnotes:

1-The human health - based water quality criteria for marine and fresh water incorporate several exposure and risk assumptions. They include (1) a 70 - year lifetime of daily exposures, (2) a 6.5 gm/day ingestion rate for fish or shellfish, (3) 2 liters/day ingestion rate for drinking water, and a one - in - one million excess cancer risk for carcinogenic chemicals. In general, these exposure assumptions will provide a safe level of protection for most individuals. On the other hand, the criteria do not account for additive or synergistic effects of multiple contaminants on human health, and they contain the assumption that 100% of exposures come from ingesting fish, shellfish, or waters from surface water sources, thus no account is taken of exposures resulting from air, other foodstuffs, or groundwater - derived or public drinking water supplies.

2-Water quality criterion established for PCB's includes Aroclor 1016 (CAS # 12674112), Aroclor 1221 (CAS # 11104282), Aroclor 1232 (CAS # 11141165), Aroclor 1242 (CAS # 53469219), Aroclor 1248 (CAS # 12672296), Aroclor 1254 (CAS # 11097691), and Aroclor 1260 (CAS # 11096825)

3-Pentachlorophenol limits, criteria, are pH dependent, a pH of 7.8 was used for the criteria.

4-The hardness value of 75.4 mg/L was used to calculate water quality limits, criteria, for hardness dependent chemicals.

5-NTR = National Toxics Rule, 40 C.F.R. Part 131 (see 57 Fed. Reg. 60848-60923); Chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington.